d. Amendments to the Drawings

Please amend Figure 5 as shown on the Replacement Sheet.

d. Remarks

Claim Amendments

Amended claim 18 is, e.g., supported by old claims 18 and 23.

New claim 24 is, e.g., supported between page 10, line 31, and page 11, line 6.

Objections to 35 U.S.C. § 120 References

Applicants have amended page 1, line 1, so that the claim for the benefit of the earlier parent and provisional applications has the proper form.

Applicants note that claims for the benefit of these earlier filed applications were made in the Request for filing a Divisional Application and the original specification, i.e., page 1, lines 3 – 5.

Objections to Drawings

The amendment to Figure 5 replaces reference numeral "60" at the lower left-hand corner of the figure by reference numeral "50". This replacement brings Figure 5 into conformity with the specification at page 8, lines 21 – 22.

Applicants request allowance of this amendment to Figure 5 and withdrawal of the objections to the drawings at page 4 of the Office Action.

Rejections under 35 U.S.C. § 103

At page 7, the Office Action rejects original claim 23 as obvious over U.S. Patent 5,609,666 ('Heitmann') and U.S. Patent 5,221,306 ('Fleming') or U.S. Patent 5,917,109 ('Berkey') as combined with U.S. Patent 4,367,085 ('Suto'). In particular, the Office Action states:

> Claim 23 requires a constant diameter of an inner diameter – which the first three references do not teach. Suto teaches that having a constant diameter is important to transmission bandwidth properties (col. 1, lines 32-46) and that one can limit fluctuations to less than 1% (col. 9, lines 35-38).

Office Action, at page 7, last paragraph (underlining added).

Thus, the Office Action relies on Suto to teach the limitation recited in original claim 23. Since the amendment to claim 18 is, e.g., supported by original claim 23, we respond to the rejection with respect to amended claim 18.

The Office Action cites portions from Suto that doe not teach that an "inner diameter of the overcladding layer varies by less than 1 percent over a length of the preform" as recited in amended claim 18. In particular, neither of the above-cited portions of Suto, even describes an overcladding layer.

For example, Suto states:

> Because of this disadvantage of the conventional VAD method, it has been very difficult to improve transmission bandwidth properties of multi-mode optical fiber ... and to improve transmission loss properties by the simultaneous formation of core and cladding regions.

Suto, col. 1, lines 35-43 (underlining added).

The above cited-portion of Suto describes a VAD method for making a preform having both a core and a cladding layer, but not an overcladding layer. Thus, at col. 1, lines 32-46, of Suto does not teach the limitation on an inner diameter of the overcladding layer as recited in amended claim 18.

Similarly, at cited col. 9, lines 26-38, Suto describes the fabrication of a porous preform 11, and Suto's Figure 6 illustrates that preform 11 is used to form a consolidated preform 14. Nevertheless, neither preform 11 or 14 has an overcladding layer, because Suto's Figure 12 illustrates a process for add a silica jacket 50 to the preform 14. Indeed, such a silica jacket may generally may have a different composition than the preform 14 and be an overcladding layer. Examples of similar silica overcladding layers are, e.g., described in U.S. Patent 6,550,280, col. 1, lines 21 – 26, which issued from application no. 09/459,775, which is incorporated into the pending application. Thus, at col. 9, lines 26 – 38, Suto's teachings about the diameter of the preform 11 are not relevant to diameters of overcladding layers, because the preform 11 does not yet have an overcladding layer.

Furthermore, Suto's teachings on effects of core/cladding layers on the optical properties of the final optical fiber would not have suggested that the overcladding layers produce similar effects, because about 99 % of the light typically propagates in the cladding/core layers of the optical fiber. In contrast, the overcladding layer largely determines the mechanical properties of the final optical fiber. See pending specification, page 1, last paragraph.

For the above reasons, neither of the cited portions of Suto would have either taught or suggested the limitation on the diameter of the overcladding layer as in amended claim 18. Thus, amended claim 18 is non-obvious.

Dependent claims 19 – 22 and 24 are non-obvious, at least, by their dependence on non-obvious amended claim 18.

Rejections under 35 U.S.C. § 112

As amended, claim 23 does not have antecedent basis issues.

Recitations of amended claim 18 expressly allow the inner diameter of the overcladding layer to vary along the preform.

Conclusion

Applicants request allowance of claims 18 – 22 and 24 as currently amended.

No fee is believed due.

In the event of any non-payment or improper payment of a required fee, the Commissioner is authorized to charge or to credit **Lucent Technologies Deposit Account No. 12-2325** to correct the error.

Respectfully,

John McCabe

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